

Amendment and Response

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Serial No. 09/497,967

Confirmation No. 8124

Filed: February 4, 2000

For: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF ICHTHYOPHTHIRIUSRemarks

The Office Action mailed November 2, 2004 has been received and reviewed. Claims 3 and 4 have been amended. Claims 5 and 36 are allowed, and claims 3-6, 10-11, 14, 17-21, 23, 36 and 38 are pending. Reconsideration and withdrawal of the rejections are respectfully requested.

The amendment to claim 3 to include "wherein the i-antigen polypeptide is capable of generating an immune response in fish against *Ichthyophthirius multifiliis*" is supported by the specification at, for example, page 19, lines 16-17.

The 35 U.S.C. §112, First Paragraph, Rejection

The Examiner maintained the rejection of claims 3-4, 6, 10-11, 14, 17-21, and 23 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. In addition, the Examiner has applied this rejection to newly added claim 38. Specifically, the Examiner indicates the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. This rejection is respectfully traversed.

With respect to claim 3, the Examiner alleged that there was no limitation that the claimed nucleic acid fragment encoded the entire fragment (i.e., amino acids 21-452 of SEQ ID NO:7). Applicants disagree, but in order to advance prosecution of the above-identified application, claim 3 is amended to clarify that the nucleic acid fragment encodes the entire internal amino acid sequence, amino acids 21-452 of SEQ ID NO:7. Further, at the suggestion of the Examiner, amended claim 3 retains the transitional phrase "comprising" and has been further amended to include functional language, reciting that the encoded polypeptide is "capable of generation an immune response in fish against *Ichthyophthirius multifiliis*." It is respectfully submitted that these amendments obviate the rejection of claim 3, and claims dependent therefrom, under 35 U.S.C. §112, first paragraph.

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With respect to claim 4, the Examiner argued that SEQ ID NO: 19 and SEQ ID NO: 20 do not encode a full length protein, and hence the scope of the claims would include numerous structural variants that would have a profound impact on the activity of the protein. Applicants respectfully disagree. SEQ ID Nos: 19 and 20 encode membrane targeting peptides. Membrane targeting sequences are attached to the N-terminus or C-terminus of a polypeptide of interest in order to direct the polypeptide to the membrane. Membrane targeting sequences are present at the end(s) of the polypeptide and therefore typically do not interfere with the activity of the polypeptide to which they are attached. Claim 4 has been amended to clarify that the encoded membrane targeting amino acid sequences are present at the N-terminus and/or C-terminus of the polypeptide, not at an internal position.

In view of the arguments presented and the amendments to claims 3 and 4, reconsideration and withdrawal of the rejection of claims 3-4, 6, 10, 11, 14, 17-21 and 23 under 35 U.S.C. §112, first paragraph, is respectfully requested.

Claims Allowed

Applicants acknowledge, with appreciation, the allowance of claims 5 and 36.

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For: DIAGNOSTIC AND PROTECTIVE ANTIGEN GENE SEQUENCES OF ICHTHYOPHTHIRIUS**Summary**

It is respectfully submitted that the pending claims 3, 4, 6, 10, 11, 14, 17-21, 23 and 38 are in condition for allowance, along with previously allowed claims 5 and 36, and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives, at the below-listed telephone number, if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted for

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The undersigned hereby certifies that the Transmittal Letter and the paper(s), as described hereinabove, are being transmitted by facsimile in accordance with 37 CFR §1.6(d) to the Patent and Trademark Office, addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 24 day of FEB, 2005, at 2:35 pm (Central Time).

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